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# Vascular Medicine

## AMNIOTIC MESENCHYMAL STEM CELLS WITH ROBUST CHEMOTACTIC PROPERTIES ARE EFFECTIVE IN THE TREATMENT OF A MYOCARDIAL INFARCTION MODEL

Poster Contributions
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**Background:** We previously reported that amniotic mesenchymal stem cells (AMMs) possess high angio-vasulogenic properties. In this study, we investigated the chemotactic abilities of AMMs for improved cardiac function and regenerative angiogenesis.

**Methods:** The expressions of chemotactic and angiogenic genes were determined by qRT-PCR. Myocardial infarction (MI) was induced in NOD/SCID mice and cells were directly transplanted into the border regions of ischemic heart tissue. Immunohistochemical analysis was also conducted.

**Results:** AMMs significantly expressed the representative chemotactic factor GCP-2, NAP-2 as well as angiogenic factor Hif-1a. AMMs also highly expressed the chemokine receptors CCR2, CCR3 and CCR5. AMM transplantation improved left ventricular function, capillary density, angiogenic cytokine levels, angiopoetin (Ang)-1 and vascular endothelial growth factor (VEGF-A) levels in affected tissue. Immunohistochemical assaying also revealed increased engraftment and endothelial phenotypes.

**Conclusions:** Our findings suggest that due to elevated survival and related chemotactic potential, AMMs are a promising stem cell source for the treatment of ischemic cardiovascular disease.